

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellant: Neil L. McClure	Confirmation No.: 6338
Application Serial No.: 10/074,839	Examiner: Van Doren, Beth
Filed: October 24, 2001	Group Art Unit: 3623
For: Equal Time Ballot Rotation	Attorney Docket No.: 392902

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June 11, 2008

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**SUPPLEMENTAL APPEAL BRIEF**

Dear Sir:

In accordance with 37 C.F.R. §41.37, and fully responsive to the Office Action dated March 1, 2007, Appellant hereby files the Appeal Brief in support of the Appeal in the above-identified matter (hereinafter the '839 Application). A Notice of Appeal, with the appropriate fee of \$250 as required by 37 C.F.R. §§41.31, 41.20(b)(1), was filed on September 1, 2007. The \$255 fee for this appeal brief, as required by 37 C.F.R. §41.20(b)(2), is also filed herewith.

This document is submitted as a Supplemental Appeal Brief to cure the deficiencies alleged in the Notice of December 11, 2007. The Notice alleges that the original brief failed to cite the specification by line and page number that support the claims. The original brief actually did have that section in part (5) following a summary of the claims. Part 5 is currently revised by expanding the citation and intermixing the citation together with the summary of the claims.

**(1) Real party in interest.**

The real party in interest for this appeal is Hart InterCivic, Inc., and Silicon Valley Bank. Evidence of the assignment, which was recorded on 04/11/2002, may be found at reel/frame 012762/0259.

**(2) Related appeals and interferences.**

No other pending appeals or interferences are currently known to Appellant that will directly affect, be directly affected by, or have a bearing on the decision to be rendered by the Board of Patent Appeals and Interferences in the instant appeal.

**(3) Status of claims.**

Claim 1-46 were rejected in the last Office Action dated March 1, 2007 and are at issue in this appeal. Claims 1-46 are currently pending in the application and stand rejected as follows:

Claims 1-46 stand rejected under U.S.C. § 103(a) as being unpatentable over Openshaw II et al. (U.S. Patent Publication 2002/0107724) (“Openshaw”) in view of Miller et al. (*The impact of candidate name order on election outcomes*) (“Miller”). Appellant respectfully traverses this rejection and requests withdrawal of the same.

**(4) Status of amendments.**

The ‘839 Application was filed on October 24, 2001 as a nonprovisional application. A first office action was mailed on November 10, 2005, to which a response was filed and entered on February 10, 2006. On April 19, 2006, a final office action was mailed rejecting all pending claims 1-43. A Request for Continued Examination (RCE) was filed on August 21, 2006 with amendments to Claims 1, 24 and 43 and addition of three new claims 44-46. A non-final Office Action was mailed on September 5, 2006 again rejecting all claims 1-46, to which a response was filed and entered on December 5, 2006. On March 1, 2007, a final office action was mailed rejecting all pending claims 1-46. A Notice of Appeal was filed on September 1, 2007. Claims 1-46 are currently pending, no amendments have been made on Claims 1-46 after the final rejection of March 1, 2007.

(5) **Summary of claimed subject matter.**

Claims 1-46 are directed to a system and method for electronic voting, said system having a memory storage device, a voting station including an electronically configurable ballot information presentation device and a voter input device, and a ballot rotation engine operable to change the selected order of ballot options to ensure substantially equal statistical fairness.

Claims 1, 24 and 43 are the only independent claims in the application. Claim 1 is directed to an electronic voting system comprising (a) a memory storage device containing ballot information which includes a plurality of ballot options in association with a contest (In the Specification as originally filed, lines 6-8 on page 8 describe a memory storage device containing ballot information including a plurality of ballot options in association with a contest. See also page 19 at lines 6-15 referencing storage device 206; page 20 at lines 7-20 referencing ballot options 214, 2316, 218 for contests 208, 210, 212. See Fig. 2); (b) a voting station including an electronically configurable ballot information presentation device operable for presenting the ballot options in a selected order during a first voting session, and a voter input device operable for permitting voter directed ballot data entry to produce a cast ballot responsively to the ballot information presented by the ballot information presentation device (In the Specification as originally filed lines 10-13 on page 8 describe a voting station including an electronically configurable ballot information presentation device operable for presenting the ballot options in a selected order during a first voting session. In the Specification as originally filed lines 13-17 on page 8 describe a voter input device operable for permitting voter directed ballot data entry to produce a cast ballot responsively to the ballot information presented by the ballot information presentation device. See also page 21 at lines 4-24 including the voting stations 222, 224, as well as manual input device 226, display 228, and CPU 232; See Fig. 2); and (c) a ballot rotation engine operable to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions, wherein the ballot rotation engine has means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a

controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction. (In the Specification as originally filed lines 17-24 on page 8 describe a ballot rotation engine operable to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions. In the Specification as originally filed lines 6-23 on page 10 describe a ballot rotation engine having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction. See also page 21 at lines 15-20 referencing ballot rotation option 234; page 19 at lines 4-8 referencing ballot rotation engine 204; page 20 at line 21 to page 21 at line 3; page 22 at line 11 to page 28 at line 8. See Figs. 1-9)

Claim 24 is directed to a method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device. The method of Claim 24 comprises the steps of (a) providing the electronic voting system with ballot information including a plurality of ballot options for a contest (In the Specification as originally filed lines 5-15 on page 11 describe the method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device, comprising the step of (a) providing the electronic voting system with ballot information including a plurality of ballot options for a contest. See page 25 at lines 20 to 22 discussing method step 802. See Fig. 8) ; (b) designating each ballot option in a selected order of ballot options for the contest (In the Specification as originally filed lines 5-15 on page 11 describe the method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device, comprising the step of (b) designating each ballot option in a selected order of ballot options for the contest. See also page 25 at line 22 to page 26 at line 5 discussing steps 804, 806, 808. See Fig. 8); (c) presenting to a voter the ballot information for the contest in the selected order of ballot options during a first voting

session (In the Specification as originally filed lines 5-15 on page 11 describe the method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device, comprising the step of (c) presenting to a voter the ballot information for the contest in the selected order of ballot options during a first voting session, See also page 26 at lines 6-7 discussing step 810. See Fig. 8); (d) permitting the voter to produce a cast ballot responsively to the ballot information (In the Specification as originally filed lines 5-15 on page 11 describe the method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device, comprising the step of (d) permitting the voter to produce a cast ballot responsively to the ballot information. See also page 26 at line 10 to page 27 at line 2 discussing step 814 and the manner of iteration. See Fig. 8); and (e) iterating to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions, wherein the step of iterating a ballot rotation engine operates through means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction. (This last step of having a ballot rotation engine having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction is described at lines 6-23 on page 10. See also page 26 at lines 4-28 referencing process steps 806, 808 in context of steps 806-814; page 22 at lines 11-22 referencing fairness. See Fig. 8. See discussion of Fig. 2 and ballot rotation engine 204 at page 20 line 21 to page 28 at line 28 as the rotation means.)

Claim 43 is directed to an electronic voting system that is used to present ballot information to voters during the course of an election where the ballot information

includes a plurality of ordered ballot options for a contest, and the improvement comprising a ballot rotation engine that is electronically operable to change the order of ballot options according to a predetermined ordering schema for different voting sessions, wherein the ballot rotation engine has means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction. (In the Specification as filed lines 17-24 on page 8 describe a ballot rotation engine operable to change the selected order of ballot options according to a predetermined ordering schema for different voting sessions. Lines 6-23 on page 10 describe a ballot rotation engine having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction. See also the discussion of ballot rotation engine 204 in context of the overall system and the manner of rotation at page 19 line 6 to page 28 at line 9. See Figs. 1-9.)

**(6) Grounds for rejections to be reviewed on appeal.**

Whether Claims 1-46 should be rejected under U.S.C. § 103(a) as being unpatentable over Openshaw II et al. (U.S. Patent Publication 2002/0107724) (“Openshaw”) in view of Miller et al. (*The impact of candidate name order on election outcomes*) (“Miller”).

**(7) Arguments.**

Claims 1-46 stand rejected under U.S.C. § 103(a) as being unpatentable over Openshaw in view of Miller. Appellant respectfully traverses the rejections because not all limitations of the instant claims are taught or suggested by the cited references.

“Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *KSR International Co. v. Teleflex Inc.*, 127, S. Ct. 1727 at 1734 (2007), citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, at 17-18, 86 S. Ct. 684 (1966).

Appellant respectfully submits that the claimed invention is not obvious over the prior art because significant differences exist between the claimed invention and the prior art and that these differences are such that the claimed invention as a whole would not have been obvious to a person having ordinary skill in the art at the time the invention was made.

(a) Claim 1

Claim 1 recites an electronic voting system comprising (a) a memory storage device containing ballot information which includes a plurality of ballot options in association with a contest; (b) a voting station including an electronically configurable ballot information presentation device operable for presenting the ballot options in a selected order during a first voting session, and a voter input device operable for permitting voter directed ballot data entry to produce a cast ballot responsively to the ballot information presented by the ballot information presentation device; and (c) a ballot rotation engine operable to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions, wherein the ballot rotation engine has means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

In short, independent Claim 1 recites at least how the ballot rotation engine operates to reconfigure ballot images on demand to achieve substantial fairness over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction. By contrast, Openshaw discloses a telephonic voting system with a pre-approved random electronic ballot. The system disclosed in Openshaw is distinguishable from the presently claimed system in at least three aspects as explained below.

First, the system and method disclosed in Openshaw do not ensure substantial statistical fairness as presently claimed. Although paragraphs 19-21 of Openshaw mention the use of a pre-approved random electronic ballot, this ballot is disseminated only to telephone voting stations that may be added in response to increased numbers of voters. The randomization occurs only for the telephone ballots, not for the precinct at large. Not all voting stations are operated in the same manner as described in Openshaw. Openshaw never teaches or suggests how its telephonic voting systems may be modified to achieve the level of statistical fairness as presently claimed.

Secondly, Openshaw has not specifically disclosed rotating the order of candidates, rather, it teaches randomization of voter selection on a keypad. See paragraph 19 of Openshaw, “the voter selections are randomized to avoid the need of a secure voting booth...” In other words, Voter #1 may press 1 for Candidate A, but Voter #2 may press two for the same Candidate A due to the randomization of voter selection. Openshaw never mentions rotation of the order of candidates in a race to ensure that each candidate’s name has substantially equal chance to appear in the first place in the ballot. This difference exists because Openshaw randomizes the ballot selection for a different reason than to achieve statistical fairness. Openshaw randomizes the ballot selection only to prevent an observer from ascertaining what vote is being cast by a voter. Accordingly, Openshaw does not teach rotating the order of candidates to achieve fairness at the level of a voting precinct, a group of precincts supported at a polling place, or an entire election jurisdiction as is instantly claimed.

Lastly, Openshaw has not taught or suggested ballot rotation on demand as is currently claimed. The term “on demand” means that ballot rotation may be executed on



an “as needed” basis. According to Openshaw, the random electronic ballots are pre-approved and are always presented to each and every voter who uses the telephonic system to vote. Thus, even if we assume that the manner of ballot rotation taught by Openshaw is the same as those taught by Appellant’s invention, the system disclosed in Openshaw is not operated on demand and is different from the presently claimed system.

The use of Miller in combination with Openshaw likewise fails to teach or suggest what is claimed for at least two reasons as explained in the following text. First, Miller merely examine retrospectively whether voting results reflect a statistical incidence of name-order effects. There is no teaching or suggestion in Miller that ballot rotation may be performed to achieve statistical fairness at the level of one precinct, a group of precincts supported at a polling place, or an entire election jurisdiction, as presently claimed.

Appendix B of Miller merely describes ballot rotation procedures where ballots were rotated for various precincts within a county *where each precinct received a single type of ballot*. Page 324-327 of Miller. Miller further states that “[a]lthough this sequential assignment method is clearly not the same as random assignment, it seems likely to have produced equivalent groups of precincts to receive different name orders.” See lines 3-5 on page 299 of Miller.

In contrast to the claimed invention, Miller’s methods merely rotate the ballot between different precincts without regard to the different number of voters in each precinct. For elections within one precinct, Miller does not address how to make sure that each candidate will appear in the first position for an equal number of voters. For elections encompassing multiple precincts or an entire jurisdiction, such as a state-wide election, because different precincts inherently have different numbers of voters, the approach described in Miller does not ensure that each candidate will appear in the first position for an equal number of voters. Thus, the system described in Miller cannot achieve fairness as measured by each candidate being presented first in an equal number of voting instances.

The present invention overcomes the problem of unfairness as illustrated in Miller by having a ballot rotation engine having means for performing ballot rotation by

generating electronically reconfigured ballot images on demand during the course of an election. Accordingly, the Miller system does not achieve substantial fairness as is now claimed.

Secondly, there is no teaching or suggestion in Miller that ballot rotation may be performed on-demand by electronic devices during the course of an election as presently claimed. As explained above, the claim limitation “on demand” is not taught or suggested by Miller. Indeed, one of ordinary skill in the art would recognize that the traditional system described in Miller operated by pre-assigning a particular candidate name order to individual precinct before election date. Therefore, Miller does not disclose performing ballot rotation on-demand during the course of an election as presently claimed and does not cure the defects in Openshaw.

Thus, the combination of Openshaw and Miller do not disclose every limitation of Claim 1. In fact, substantial differences exist between the claimed subject matter and the prior art. “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See* KSR, at 1741, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Appellant submits that the Examiner has failed to carried the initial burden in establishing with reasoning that these differences are such that the claimed invention as a whole would have been obvious to a person having ordinary skill in the art at the time the invention was made.

More specifically, the Examiner has failed to establish why it is obvious to modify Openshaw’s telephonic voting system or Miller’s ballot rotation technique whereby each precinct is allocated a ballot style with different name order to arrive at the present invention. Neither Miller nor Openshaw contemplates a technique whereby the ballots are rotated and presented to individual voters so that each candidate is presented first to substantially same number of voters. Even if we assume arguably that it was common knowledge that it is desirable to modify the name order so that each candidate is presented first to substantially same number of voters, there is no teaching in either Miller or Openshaw as to how this goal may be achieved. The Examiner has not presented reasoning why it was both desirable and obvious to one of ordinary skill to

modify the then existing ballot rotation methods in order to arrive at the presently claimed system. Taken together, the Examiner has failed to carry the initial burden to establish a *prima facie* case of obviousness of the rejected claims. Appellant respectfully requests withdrawal of the rejections under 35 U.S.C. 103(a).

(b) Claim 24

Claim 24 recites a method of electronic voting through use of an electronic voting system. The method of Claim 24 comprises the steps of (a) providing the electronic voting system with ballot information including a plurality of ballot options for a contest; (b) designating each ballot option in a selected order of ballot options for the contest; (c) presenting to a voter the ballot information for the contest in the selected order of ballot options during a first voting session; (d) permitting the voter to produce a cast ballot responsively to the ballot information; and (e) iterating to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions, wherein the step of iterating a ballot rotation engine operates through means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

For reasons similar to those set forth above with respect to Claim 1, at least the step of iterating a ballot rotation engine which operates through means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction is not disclosed or suggested by any of the cited references. Nor is this step obvious to one of ordinary skill at the time the instant application was filed. Thus, Appellant respectfully submits that Claim 24 is not obvious over the cited art under 35 U.S.C. 103(a).

(c) Claim 43

Claim 43 recites an electronic voting system that is used to present ballot information to voters during the course of an election where the ballot information includes a plurality of ordered ballot options for a contest, and the improvement comprising a ballot rotation engine that is electronically operable to change the order of ballot options according to a predetermined ordering schema for different voting sessions, wherein the ballot rotation engine has means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

For reasons similar to those set forth above in section (a) with respect to Claim 1, at least the ballot rotation engine that is electronically operable to change the order of ballot options according to a predetermined ordering schema for different voting sessions, wherein the ballot rotation engine has means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction is not taught or suggested by any of the cited references. Nor is the inclusion of this component obvious to one of ordinary skill at the time the instant application was filed. Thus, Appellant respectfully submits that Claim 43 is not obvious over the cited references under 35 U.S.C. 103(a).

The following commentary is provided with respect to all the individual claims:

*Claim 1*

Claim 1 recites an electronic voting system as follows:

1. An electronic voting system comprising:  
a memory storage device containing  
ballot information including a plurality of ballot options in association with a contest;

a voting station including  
an electronically configurable ballot information presentation device operable for presenting the ballot options in a selected order during a first voting session, and  
a voter input device operable for permitting voter directed ballot data entry to produce a cast ballot responsively to the ballot information presented by the ballot information presentation device; and  
a ballot rotation engine operable to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions,  
the ballot rotation engine having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

With regard to Claim 1, the references do not teach or suggest the ballot rotation system as claimed and the Examiner has not provided reasoning as to why it would be obvious for one of ordinary skill in the art to modify the teaching of these references in order to arrive at the claimed invention.

Claims 2-23 all depend from Claim 1 and benefit from like arguments as provided hereinabove. Moreover, these claims also have additional features that patentably distinguish them over the references.

*Claim 2*

For example, Claim 2 depends from Claim 1 and recites a network that connects the precinct control unit and the plurality of voting stations. The references do not disclose or suggest such a network as presently claimed by Appellant.

*Claim 3*

Claim 3 depends from Claim 2, and further clarify that the precinct control unit is configured to access the memory storage device to obtain the ballot information and process the same to implement the ordering schema among the plurality of voting stations. The references do not teach or suggest the configuration of Claim 3.

*Claim 4*

Claim 4 depends from Claim 3 and further clarify that ordering schema is implemented through program instructions to the precinct control unit for balancing the selected order of ballot options amongst the plurality of voting stations so as not to favor any one of the plurality of ballot options at a precinct level during the course of an election. None of the references teach or suggest the limitation of Claim 4.

*Claim 5*

Claim 5 depends from Claim 1 and recites that the ballot information includes a plurality of contests each with associated ballot options, and the ballot rotation engine is operable to change the selected order of the associated ballot options among the plurality of contests. None of the references teach or suggest the limitation of Claim 5.

*Claim 6*

Claim 6 depends from Claim 1 and recites that the ballot information includes a plurality of contests with associated ballot options and the ballot rotation engine is operable to change the selected order of corresponding ballot options among selected ones of the plurality of contests. None of the references teach or suggest the limitation of Claim 6.

*Claim 7*

Claim 7 depends from Claim 6 and recites a plurality of predetermined ordering schema for use in the ballot rotation engine, each of the contests being identified to a selected one of the plurality of predetermined ordering schema. None of the references teach or suggest the limitation of Claim 7.

*Claims 8 and 9*

Claims 8 and 9 depend from Claim 1 and recite that the contest comprises a race for elective officials or a referendum for proposed new legislation, respectively. None of the references teach or suggest the limitations of Claim 8 or 9.

*Claim 10*

Claim 10 depends from Claim 1 and recites an electronically configurable ballot information presentation device comprising a visual display. None of the references teach or suggest use of the device of Claim 10.

**Claim 11**

Claim 11 depends from Claim 1 and recites an electronically configurable ballot information presentation device which comprises an audio speaker. None of the references teach or suggest the device of Claim 11.

**Claim 12**

Claim 12 depends from Claim 1 and recites an electronically configurable ballot information presentation device comprising a Braille printer. None of the references teach or suggest the device of Claim 12.

**Claim 13**

Claim 13 depends from Claim 1 and recites a voter input device comprising a manually actuable switch. None of the references teach or suggest use of the device of Claim 13.

**Claim 14**

Claim 14 depends from Claim 1 and recites a voter input device comprising a voter-directed ballot navigation tool. None of the references teach or suggest use of the device of Claim 14.

**Claim 15**

Claim 15 depends from Claim 1 and recites the predetermined ordering schema of the ballot rotation engine comprising program instructions for randomization of the selected order of ballot options between successive iterations. None of the references teach or suggest the predetermined ordering schema of Claim 15.

**Claim 16**

Claim 16 depends from Claim 1 and recites the predetermined ordering schema of the ballot rotation engine comprising program instructions for sequential rotation of the ballot options. None of the references teach or suggest the predetermined ordering schema of Claim 16.

**Claim 17**

Claim 17 depends from Claim 16 and recites the program instructions for sequential rotation of the ballot options comprising program instructions for uprotation of

adjacent ballot options. None of the references teach or suggest the program instructions recited in Claim 17.

*Claim 18*

Claim 18 depends from Claim 16 and recites the program instructions for sequential rotation of the ballot options comprising program instructions for downrotation of adjacent ballot options. None of the references teach or suggest the program instructions recited in Claim 18.

*Claim 19*

Claim 19 depends from Claim 1 and recites the predetermined ordering schema of the ballot rotation engine comprising program instructions for implementing a system of rotation at a precinct level.. None of the references teach or suggest the predetermined ordering schema recited in Claim 19.

*Claim 20*

Claim 20 depends from Claim 1 and recites the predetermined ordering schema of the ballot rotation engine comprising program instructions for implementing a system of rotation at an election jurisdiction level. None of the references teach or suggest the predetermined ordering schema recited in Claim 20.

*Claim 21*

Claim 21 depends from Claim 1 and recites the predetermined ordering schema of the ballot rotation engine comprising program instructions for implementing a system of rotation that provides a number of rotation instances for each candidate in a first position of the selected order such that predominance of any one candidate at the top of the selected order is statistically insignificant in influencing an election outcome. None of the references teach or suggest the predetermined ordering schema recited in Claim 21.

*Claim 22*

Claim 22 depends from Claim 1 and recites the predetermined ordering schema of the ballot rotation engine comprising program instructions for implementing a system of rotation that provides, as close as is mathematically possible, an equal number of rotation instances for each candidate at all positions of the selected order. None of the references teach or suggest the predetermined ordering schema recited in Claim 22.



*Claim 23*

Claim 23 depends from Claim 1 and recites the ballot rotation engine comprising program instructions for implementing a lookup table for changing the selected order of the additional voting sessions. None of the references teach or suggest the predetermined ordering schema recited in Claim 23.

*Claim 24*

Claim 24 is an independent claim and recites a method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device, the method comprising the steps of:

- providing the electronic voting system with ballot information including a plurality of ballot options for a contest;
  - designating each ballot option in a selected order of ballot options for the contest;
  - presenting to a voter the ballot information for the contest in the selected order of ballot options during a first voting session;
  - permitting the voter to produce a cast ballot responsively to the ballot information; and
  - iterating to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions,
- wherein the step of iterating a ballot rotation engine operates through means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

With regard to Claim 24, the references do not teach or suggest the ballot rotation method as claimed and the Examiner has not provided reasoning as to why it would be obvious for one of ordinary skill in the art to modify the teaching of the cited references in order to arrive at the claimed invention.

Claims 25-42 all depend from Claim 24 and benefit from like arguments as provided hereinabove for claim 24. Moreover, these claims also have additional features that patentably distinguish them over the references.

*Claim 25*

Claim 25 depends from Claim 24 and recites that the electronic voting system includes a precinct control unit and a plurality of voting stations networked to the precinct control unit, and the step of iterating is performed at a precinct control unit. None of the references teach or suggest the electronic voting system recited in Claim 25.

*Claim 26*

Claim 26 depends from Claim 25 and recites the steps of accessing a memory storage device to obtain the ballot information and processing the ballot information to implement the ordering schema among the plurality of voting stations. None of the references teach or suggest the steps of accessing a memory storage device recited in Claim 26.

*Claim 27*

Claim 27 depends from Claim 26 and recites that the step of iterating includes a step of balancing the selected order of ballot options amongst the plurality of voting stations so as not to favor any one of the plurality of ballot options at a precinct level during the course of an election. None of the references teach or suggest the step of iterating recited in Claim 27.

*Claim 28*

Claim 28 depends from Claim 24 and recites that the ballot information includes a plurality of contests each identified to corresponding ballot options and the step of iterating includes changing the selected order of corresponding ballot options among the plurality of contests. None of the references teach or suggest the step of iterating recited in Claim 28.

*Claim 29*

Claim 29 depends from Claim 24 and recites that the ballot information includes a plurality of contests each identified to corresponding ballot options and the step of iterating includes changing the selected order of corresponding ballot options among

selected ones of the plurality of contests. None of the references teach or suggest the step of iterating as recited in Claim 29.

*Claim 30*

Claim 30 depends from Claim 29 and recites that the electronic voting system includes a plurality of predetermined ordering schema for use in the iterating step and the method comprises a step of identifying one of the plurality of predetermined ordering schema for use in each contest. None of the references teach or suggest the electronic voting system and the step of identifying one of the plurality of predetermined ordering schema for use in each contest as recited in Claim 30.

*Claim 31*

Claim 31 depends from Claim 24 and recites a presenting step which includes presenting through use of an electronically configurable visual display. None of the references teach or suggest the presenting step through use of an electronically configurable visual display as recited in Claim 31.

*Claim 32*

Claim 32 depends from Claim 24 and recites a presenting step which includes presenting through use of an audio speaker. None of the references teach or suggest the presenting step through use of an audio speaker as recited in Claim 32.

*Claim 33*

Claim 33 depends from Claim 24 and recites a presenting step which includes presenting through use of a Braille printer. None of the references teach or suggest the presenting step through use of a Braille printer as recited in Claim 33.

*Claim 34*

Claim 34 depends from Claim 24 and recites a permitting step which includes accepting input from a voter-directed ballot navigation tool. None of the references teach or suggest the permitting step as recited in Claim 34.

*Claim 35*

Claim 35 depends from Claim 24 and recites an iterating step which comprises randomizing the selected order of ballot options between successive iterations. None of

the references teach or suggest the iterating step by randomizing the selected order of ballot options between successive iterations as recited in Claim 35.

*Claim 36*

Claim 36 depends from Claim 24 and recites an iterating step which comprises sequentially rotating the ballot options.

*Claim 37*

Claim 37 depends from Claim 36 and recites a step of sequential rotation comprising uprotating adjacent ballot options.

*Claim 38*

Claim 38 depends from Claim 36 and recites a step of sequential rotation comprising downrotating adjacent ballot options.

*Claim 39*

Claim 39 depends from Claim 24 and recites an iterating step which comprises implementing a comprehensive plan for ballot rotation at a precinct level. None of the references teach or suggest the iterating step by implementing a comprehensive plan for ballot rotation at a precinct level as recited in Claim 39.

*Claim 40*

Claim 40 depends from Claim 24 and recites an iterating step which comprises implementing a comprehensive plan for ballot rotation at an election jurisdiction level. None of the references teach or suggest the iterating step by implementing a comprehensive plan for ballot rotation at an election jurisdiction level as recited in Claim 40.

*Claim 41*

Claim 41 depends from Claim 24 and recites an iterating step which comprises implementing a system of ballot rotation that provides a number of rotation instances for each candidate at the top of the selected order such that predominance of any one candidate at the top of the selected order is statistically insignificant in influencing an election outcome. None of the references teach or suggest the iterating step as recited in Claim 41.

*Claim 42*

Claim 42 depends from Claim 24 and recites an iterating step which comprises implementing a system of ballot rotation that provides, as close as is mathematically possible, an equal number of rotation instances for each candidate at all positions of the selected order. None of the references teach or suggest the iterating step as recited in Claim 42.

*Claim 43*

Claim 43 is an independent claim and recites an electronic voting system that is used to present ballot information to voters during the course of an election where the ballot information includes a plurality of ordered ballot options for a contest, the improvement comprising:

a ballot rotation engine that is electronically operable to change the order of ballot options according to a predetermined ordering schema for different voting sessions,

the ballot rotation engine having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

With regard to Claim 43, the references do not teach or suggest the ballot rotation system as claimed and the Examiner has not provided adequate reasoning as to why it would be obvious for one of ordinary skill in the art to modify the teaching of the cited references in order to arrive at the claimed invention.

Claim 44-46 depend from Claims 1, 24 and 43, respectively, and benefits from like arguments as provided hereinabove for these claims. Moreover, claims 44-46 also have additional features that patentably distinguish them over the references.

*Claim 44*

Claim 44 depends from Claim 1 and recites a ballot rotation engine which is configured to implement substantially equal statistical fairness of ballot rotation at the

precinct level. None of the references teach or suggest the ballot rotation engine as recited in Claim 44.

*Claim 45*

Claim 45 depends from Claim 24 and recites an iterating step which implements the substantially equal statistical fairness of ballot rotation at the precinct level. None of the references teach or suggest the iterating step as recited in Claim 45.

*Claim 46*

Claim 46 depends from Claim 43 and recites a ballot rotation engine which is configured to implement substantially equal statistical fairness of ballot rotation at the precinct level. None of the references teach or suggest the ballot rotation engine as recited in Claim 46.

**(8) Claims appendix.**

Appellant encloses a copy of Claims 1-46 involved in this appeal as an appendix hereto.

**(9) Evidence appendix.**

Not applicable.

**(10) Related proceedings appendix.**

Not applicable.

**CONCLUSION**

Appellant respectfully requests the Honorable Board of Patent Appeals and Interferences reverse the Examiner's rejections of Claims 1-46 under 35 U.S.C. § 103(a). Appellant respectfully solicits allowance of all of the claims appealed and pending in the instant application.

Other than the fee for a five month extension of time, no further fees are deemed due in connection with this matter. However, the Commissioner is hereby authorized to charge any fees which may be due in this matter from Deposit Account Number 12-0600.

Respectfully submitted,

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### Claims Appendix

1. An electronic voting system comprising:
  - a memory storage device containing
  - ballot information including a plurality of ballot options in association with a contest;
  - a voting station including
  - an electronically configurable ballot information presentation device operable for presenting the ballot options in a selected order during a first voting session, and
  - a voter input device operable for permitting voter directed ballot data entry to produce a cast ballot responsively to the ballot information presented by the ballot information presentation device; and
  - a ballot rotation engine operable to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions,
  - the ballot rotation engine having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.
2. The electronic voting system as set forth in claim 1, comprising a network including a precinct control unit and a plurality of voting stations.
3. The electronic voting system as set forth in claim 2, wherein the precinct control unit is configured to access the memory storage device to obtain the ballot information and process the same to implement the ordering schema among the plurality of voting stations.
4. The electronic voting system of claim 3, wherein the ordering schema is implemented through program instructions to the precinct control unit for balancing the selected order of ballot options amongst the plurality of voting stations so as not to favor



any one of the plurality of ballot options at a precinct level during the course of an election.

5. The electronic voting system of claim 1, wherein the ballot information includes a plurality of contests each with associated ballot options, and the ballot rotation engine is operable to change the selected order of the associated ballot options among the plurality of contests.

6. The electronic voting system of claim 1, wherein the ballot information includes a plurality of contests with associated ballot options and the ballot rotation engine is operable to change the selected order of corresponding ballot options among selected ones of the plurality of contests.

7. The electronic voting system of claim 6, including a plurality of predetermined ordering schema for use in the ballot rotation engine, each of the contests being identified to a selected one of the plurality of predetermined ordering schema.

8. The electronic voting system as set forth in claim 1, wherein the contest comprises a race for elective officials.

9. The electronic voting system as set forth in claim 1, wherein the contest comprises a referendum for proposed new legislation.

10. The electronic voting system as set forth in claim 1, wherein the electronically configurable ballot information presentation device comprises a visual display.

11. The electronic voting system as set forth in claim 1, wherein the electronically configurable ballot information presentation device comprises an audio speaker.

12. The electronic voting system as set forth in claim 1, wherein the electronically configurable ballot information presentation device comprises a Braille printer.

13. The electronic voting system as set forth in claim 1, wherein the voter input device comprises a manually actuatable switch.

14. The electronic voting system as set forth in claim 1, wherein the voter input device comprises a voter-directed ballot navigation tool.

15. The electronic voting system as set forth in claim 1, wherein the predetermined ordering schema of the ballot rotation engine comprises program instructions for randomization of the selected order of ballot options between successive iterations.

16. The electronic voting system as set forth in claim 1, wherein the predetermined ordering schema of the ballot rotation engine comprises program instructions for sequential rotation of the ballot options.

17. The electronic voting system as set forth in claim 16, wherein the program instructions for sequential rotation of the ballot options comprise program instructions for uprotation of adjacent ballot options.

18. The electronic voting system as set forth in claim 16, wherein the program instructions for sequential rotation of the ballot options comprise program instructions for downrotation of adjacent ballot options.

19. The electronic voting system as set forth in claim 1, wherein the predetermined ordering schema of the ballot rotation engine comprises program instructions for implementing a system of rotation at a precinct level.

20. The electronic voting system as set forth in claim 1, wherein the predetermined ordering schema of the ballot rotation engine comprises program instructions for implementing a system of rotation at an election jurisdiction level.

21. The electronic voting system as set forth in claim 1, wherein the predetermined ordering schema of the ballot rotation engine comprises program instructions for implementing a system of rotation that provides a number of rotation instances for each candidate in a first position of the selected order such that predominance of any one candidate at the top of the selected order is statistically insignificant in influencing an election outcome.

22. The electronic voting system as set forth in claim 1, wherein the predetermined ordering schema of the ballot rotation engine comprises program instructions for implementing a system of rotation that provides, as close as is mathematically possible, an equal number of rotation instances for each candidate at all positions of the selected order.

23. The electronic voting system as set forth in claim 1, wherein the ballot rotation engine comprises program instructions for implementing a lookup table for changing the selected order of the additional voting sessions.

24. A method of electronic voting through use of an electronic voting system having an electronically configurable ballot information device, the method comprising the steps of:

providing the electronic voting system with ballot information including a plurality of ballot options for a contest;

designating each ballot option in a selected order of ballot options for the contest;

presenting to a voter the ballot information for the contest in the selected order of ballot options during a first voting session;

permitting the voter to produce a cast ballot responsively to the ballot information; and

iterating to change the selected order of ballot options according to a predetermined ordering schema for additional voting sessions,

where in the step of iterating a ballot rotation engine operates through means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

25. The method according to claim 24, wherein the electronic voting system includes a precinct control unit and a plurality of voting stations networked to the precinct control unit, and the step of iterating is performed at a precinct control unit.

26. The method according to claim 25, including steps of accessing a memory storage device to obtain the ballot information and processing the ballot information to implement the ordering schema among the plurality of voting stations.

27. The method according to claim 26, wherein the step of iterating includes a step of balancing the selected order of ballot options amongst the plurality of voting

stations so as not to favor any one of the plurality of ballot options at a precinct level during the course of an election.

28. The method according to claim 24, wherein the ballot information includes a plurality of contests each identified to corresponding ballot options and the step of iterating includes changing the selected order of corresponding ballot options among the plurality of contests.

29. The method according to claim 24 wherein the ballot information includes a plurality of contests each identified to corresponding ballot options and the step of iterating includes changing the selected order of corresponding ballot options among selected ones of the plurality of contests.

30. The method according to claim 29 wherein the electronic voting system includes a plurality of predetermined ordering schema for use in the iterating step and the method comprises a step of identifying one of the plurality of predetermined ordering schema for use in each contest.

31. The method according to claim 24, wherein the step of presenting includes presenting through use of an electronically configurable a visual display.

32. The method according to claim 24, wherein the step of presenting includes presenting through use of an audio speaker.

33. The method according to claim 24, wherein the step of presenting includes presenting through use of a Braille printer.

34. The method according to claim 24, wherein the step of permitting includes accepting input from a voter-directed ballot navigation tool.

35. The method according to claim 24, wherein the step of iterating comprises randomizing the selected order of ballot options between successive iterations.

36. The method according to claim 24, wherein the step of iterating comprises sequentially rotating the ballot options.

37. The method according to claim 36, wherein the step of sequentially rotating comprises uprotating adjacent ballot options.

38. The method according to claim 36, wherein the step of sequentially rotating comprises downrotating adjacent ballot options.

39. The method according to claim 24, wherein the step of iterating comprises implementing a comprehensive plan for ballot rotation at a precinct level.

40. The method according to claim 24, wherein the step of iterating comprises implementing a comprehensive plan for ballot rotation at an election jurisdiction level.

41. The method according to claim 24, wherein the step of iterating comprises implementing a system of ballot rotation that provides a number of rotation instances for each candidate at the top of the selected order such that predominance of any one candidate at the top of the selected order is statistically insignificant in influencing an election outcome.

42. The method according to claim 24, wherein the step of iterating comprises implementing a system of ballot rotation that provides, as close as is mathematically possible, an equal number of rotation instances for each candidate at all positions of the selected order.

43. In an electronic voting system that is used to present ballot information to voters during the course of an election where the ballot information includes a plurality of ordered ballot options for a contest, the improvement comprising:

a ballot rotation engine that is electronically operable to change the order of ballot options according to a predetermined ordering schema for different voting sessions,

the ballot rotation having means for performing ballot rotation by generating electronically reconfigured ballot images on demand during the course of an election to implement the schema in a controlled manner facilitating substantially equal statistical fairness in rotation over at least one level selected from the group consisting of a voting precinct, a group of precincts supported at a polling place, and an entire election jurisdiction.

44. The electronic voting system as set forth in claim 1, wherein the ballot rotation engine is configured to implement substantially equal statistical fairness of ballot rotation at the precinct level.

45. The method of claim 24, wherein the step of iterating implements the substantially equal statistical fairness of ballot rotation at the precinct level.

46. The electronic voting system as set forth in claim 43, wherein the ballot rotation engine is configured to implement substantially equal statistical fairness of ballot rotation at the precinct level.

**Evidence Appendix**

Not applicable.

**Related Proceedings Appendix**

Not applicable.